

ON THE

18

WINTER HEALTH RESORTS

OF

THE ALPS.

BY

E. SYMES THOMPSON, M.D., F.R.C.P.,

SENIOR PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION, BROMPTON.

REPRINTED FROM "THE MEDICAL PRESS."

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It is a fact now generally accepted by the profession and by the public, that a winter spent in the High Alps is often productive of great benefit in cases of chest disease. Hitherto it has been deemed needful to reach the selected health resort in September or October before the snows and frosts of winter have set in, and travelling has become dangerous. It is, however, my object in this paper to point out from personal experience, that travelling is seldom if ever dangerous, that it may easily be accomplished at any time with due precautions, and by suitable patients, and that not only chest complaints but many others may be benefited by a winter sojourn in the Alps. The long winter journey of which the very *idea* alarms our patients at first sight, is really a simple matter. Leaving London at 10 a.m., and Dover at 12, you take luncheon at Calais, coffee at Amiens, and dinner at Tergniers, soon after which you settle down for a night

in the train. This is a fatigue to some, but a large proportion of travellers quickly fall asleep, especially those who have been living at high pressure to enable them to get free for the much needed change, and the railway carriage is kept comfortably warm by a somewhat too frequent supply of hot water tins. At six in the morning you are ready for a wash and breakfast at Basle, and at about half-past seven the glories of the journey begin. Zurich and the Lake of Wallenstadt are seen in a flood of sunlight, such as we Londoners have not enjoyed since August, and on arriving at Chur at 2 p.m. it is almost impossible to believe that only 28 hours before you were wearily driving to Charing Cross through the foggy London streets. Still more refreshing is it to exchange the iron horse for *Swiss* horses of flesh and blood. The three hours drive from Chur to Thusis seems to break off the links that bind to artificial life and land one in a region of peace, not yet, however, quite snow begirt, for the roads are thus far passable for wheels as well as for runners. At Thusis warm bed-rooms, a good dinner, and a hospitable English-speaking host await you at Hotel Rhoetia. Above this point sledges only are used. The drive over the Julier Pass to St. Moritz, some parts of it in open sledges and some in a diligence on runners, is full of incident; and, notwithstanding the cold, marvellously free from discomfort. It commences at 7 a.m. and occupies the greater part of the day, and I can speak from experience not only as to its freedom from chill and suffering, but for the renovation and refreshment it brings even to the invalids. It so happens that four of my patients crossed this Pass during storms, the two chief storms of

the season ; although the sledges were several times upset in the snow the patients were none the worse, but all the better for the trip.

In the journey to Davos the destination is reached before 3 o'clock, a consideration this, for those who are weak, as will be shown presently. Davos is better suited for the more fragile, and St. Moritz for those who can bear a long day in the free air. As regards meteorological data the information is incomplete and somewhat conflicting. Theory would lead me to suppose that as the two valleys of the upper Engadine and of Davos are similarly placed the diversities would not be great, especially as the distance between them is scarcely fifteen miles, and the mountains on either side allow a similar amount of diurnal sunshine. The Engadiner Kulm is however nearly 1,000 feet higher than Davos, and is raised farther above the level of the valley, which, in the first case is occupied by the St. Moritz Lake, and in the latter by a flat plain, marshy in summer, but snow covered in winter.

The rainfall is about the same ; when south winds prevail there is more snow at St. Moritz, but in north winds more at Davos. I have before me the wind gauge observations at Davos and St. Moritz but they are conflicting, and I am assured by competent authority that no reliable figures exist by which the two places can be compared. The last column in the table shows the number of absolutely windless days at Davos during the last four winters. The Föhn wind from the south, which is sometimes compared to the Sirocco, is described by the Davosians as relaxing and trying to invalids, whilst at St. Moritz its influence is less depressing.

Winter Weather at Davos, 1879—1883.

	CLOUDLESS DAYS.				FINE, BUT NOT CLOUDLESS.				CLOUDY.				RAIN OR SNOW.				WINDLESS.			
	1879-80.	1880-81.	1881-82.	1882-83.	1879-80.	1880-81.	1881-82.	1882-83.	1879-80.	1880-81.	1881-82.	1882-83.	1879-80.	1880-81.	1881-82.	1882-83.	Up to April 15.	Up to April 30.	Up to Mar. 20.	
—																				
October ...	18	6	0	4	4	2	14	14	3	15	7	2	6	8	10	11	24	16	2	8
November ...	5	10	18	7	4	6	8	11	14	9	1	2	14	5	3	10	19	23	25	13
December ...	14	8	10	8	6	7	14	11	6	6	2	2	5	10	5	10	23	27	24	20
January ...	15	10	20	10	5	9	10	14	5	10	0	3	4	2	1	4	29	26	21	17
February ...	8	7	18	9	7	7	6	13	8	6	1	2	6	8	3	4	21	24	16	11
March ...	16	10	16	6	5	3	6	8	3	11	4	1	7	7	5	5	17	18	11	3
April ...	...	...	10	...	..	...	8	...	...	...	7	...	...	...	5	...	...	9	10	...
Totals for the Winter ...	76	51	82	44	33	35	58	71	32	57	15	12	42	40	27	44	133	134	109	72

Mr. Waters, whose observations at Davos in the winter of 1881-2 were made most carefully, and who is now carrying out a series of elaborate investigations, finds that this Föhn wind contains more moisture at St. Moritz than at Davos; this he attributed to the fact that before it reaches Davos the moisture is deposited in the form of snow on the intervening mountains.

In the Alps, as on the Riviera, the fine seasons are not the most favourable to invalids, who are then tempted to exert themselves over much, and so set up catarrh, hæmoptysis, or some intercurrent affection. More progress is made when occasional bad days keep the invalids indoors, and show them the necessity for avoiding undue exposure and exertion.

Last winter was exceptionally fine, and had this disadvantage; that at Davos the snow was frequently melted and in a state of slush, and thus the dryness was lessened, and mists promoted.

The elevation of St. Moritz being greater, it may be assumed that the influence of the rarefied air is also greater in expanding the chest, increasing its dimensions, and furthering replacement of damaged and cicatrising parts by neighbouring healthy lung. One of my cases afforded a good example of the expansion of the sound lung replacing the contracted lung.

For the same reason it might be expected that those who, having extensively damaged lung, suffer from dyspnoea at Davos would do so more painfully at St. Moritz. I have met with several cases of this kind in summer. This winter, however, the only cases I saw, in which breathlessness was complained of, happened to be at Davos.

The exhilarating quality of the air is more apparent

at St. Moritz than at Davos, owing partly to the greater elevation, and partly to the surpassing beauty of the surrounding scenery. This exhilaration, and the 6,000 feet elevation, may be too great for many invalids with whom it may be wise to begin with an experience of the lower levels before making trial of the upper, and to ascertain how 5,000 feet is borne before trying a 6,000 feet elevation. Then, again, the usual habits and tastes of the invalid must be considered. The life at Davos is suited for those who enjoy strolling up and down the main street, amid a crowd of other loiterers, admiring the shops and sleighs, and listening to the band at the Curhaus. There is not much stimulus to over-exertion there, as the skating rink is at a distance of nearly half a mile below the hotels, and is not always well kept.

At St. Moritz the skating-rink is flooded daily by the hotel keeper, and the toboggin runs are at the very door of the Hotel. There is also a well-kept lawn tennis court in the grounds of the hotel. The life, therefore, at St. Moritz is like that of a large country house in England, where all have like interests, aims, and pursuits.

With the exception of an occasional treat of glee-singing by the villagers, every entertainment given is designed, executed, and appreciated by the hotel guests. There is no temptation to seek evening amusement under any other roof.

Although the weather of the Alps is more steady and reliable in winter than in summer, we cannot compare one winter with another without observing many great variations. Taking the figures and throwing them into the form of a comparative table, we find on adding together the two first columns, the fine days are 109, 86,

140, 115, giving an average of 112. Even the worst of these rouses in the breast of the Londoner a longing for the Alps.

In favourable winters the invalid at Davos has more out-door air than in the Riviera, and can enjoy much more fresh air in his room than in most warm resorts. The air at Davos is drier than either that of the Riviera or of Egypt (*a*) and being cold as well as dry, it can, when inspired and so raised nearly to blood heat, absorb a great deal of moisture from the lungs. The amount of moisture absorbed from the skin is also very great. Besides the dryness of the air, its rarefied nature facilitates the interchange of oxygen and carbonic acid to and from the blood.

Davos gained its early reputation when a simple mountain village. Now it is quite a town, with its baths, gas works, and large shops, curhaus, and hotels. Eleven years ago, the hotels were filled only in summer, and in winter afforded ample accommodation for the small number of guests who ventured to frequent them. This is now reversed. The hotels are more than adequate for summer visitors, and overcrowded in winter.

St. Moritz is now in the position that Davos was eleven years ago. The hotel built for 300 summer visitors is more than sufficiently large for the requirements of its 100 guests, who are able to enjoy abundant breathing space, large, well-warmed room, and spacious corridors for exercise.

The position of the Davos valley, enclosed and protected from the north and east, becomes, as the town

(*a*) "Mr. A. W. Waters' Observations at Davos, 1881-2." "Proceedings of the Manchester Literary and Philosophical Society, 1882."

enlarges, a source of danger, the smoke caused by lighting fires in the morning often hangs over the town for the whole day. Overcrowding has spoilt many a haven on the Riviera, but overgrowth is far more to be feared in an enclosed valley than on the sea coast. The drainage, the defects of which have kept many away is about to be improved by deepening the course of the Landwasser stream, and making it more direct. The warming of the hotels is effected entirely by stoves, and no sufficient provision exists for the extraction of the air ; it remains, therefore, for each person so to manage the ventilation of his room as to secure adequate interchange. This may be effected by having a portion of the window open, and thus obtaining a constant admission of air. The atmosphere is so still and dry that no draught is thus occasioned, and no sudden chilling of the room. The admixture of inner and outer air is secured, not by currents of air or draughts, but by a gradual and unnoticed interchange.

If at bedtime the temperature of the room is 58° , and the window kept partially open all night, the morning temperature seldom falls below 48° , and the stove being lighted before the invalid gets up, there is no danger.

In England, with a similar access of air, and an open fireplace, the moisture contained in the outer air, and the draught from the window to the fire would give a serious chill. The ordinary French windows are double, and it is usual to open the outer window to the extent of three or four inches, and the upper fan light of the inner window to a similar extent ; thus, the outer air mixes with the air between the inner and outer windows and then enters the room in an upward direction.

The Engadine is acknowledged to be one of the most enjoyable places in which to spend a few weeks in summer, but it is even more renovating and refreshing in winter to persons in ordinary health. The weather is more reliable and unvarying, there is no risk of enervation from excessive heat during the journey, the sky is cloudless, there is no rain, and snow falls but rarely.

If the hard-worked man of business can secure a month for rest and change, he may gain the needed benefit in any of the favoured health resorts of our own island, but if a week or two can alone be obtained, he should seek out a mountain station sheltered from wind and having the proper aspect and necessary comforts. The journey may be considered as forming part of the pleasure, and its cost (about £10 the return fare) is fully repaid by the rapidity of convalescence and speedy return home.

Overworked schoolmasters and professional men needing rest can do nothing better than make a short trial of the Engadine, and Davos in winter. From the southern health resorts the friends of the patient are apt to return debilitated and unstrung; it is quite otherwise in these mountain stations. I know of no place so good for a schoolboy and his sisters in the winter holidays as the Engadine.

Those in health need few restraints, but for those with active lung disease, sudden exertion on arrival should be discouraged lest it lead to hæmorrhage. It is not easy to regulate exercise. If there is active disease or hæmorrhagic tendency, or moist sound in the lung, the patient should sit out in the sun till dry sounds replace moist ones. He may then walk on the level, or

skate, or gently stroll up and down hill, thus causing deep inspiration. Quiet skating can be indulged in by almost all. "Tobogganing" is more severe, as patients are apt to talk and laugh when walking together up hill. This is very good for the vigorous, as it expands the chest. Lawn tennis is suited only for the strongest, in whom lung disease is quiescent.

The journey home ! Here the difficulty meets us where to go when the snow is melting, and some stay in their winter quarters till they can safely return to England, and others try Switzerland, Italy, the Black Forest, or the Rhine. No hard and fast line can be drawn for all, but when the patient is too ill to enjoy the incidents of a tour, and is too tender to be exposed to the risks of hotels and railway platforms, the best course is to travel as directly and rapidly as possible from the winter haven to the English home. Leaving Davos one morning you can be in London on the afternoon of the following day.

A winter passed in the South of France renders a return to England unsafe till the middle of May, but if spent amidst frost and snow, the ability to bear extremes is strengthened, and the dangers of our English climate are scarcely to be feared. One of the advantages indeed of a winter in the snow is this increased power of enduring bad weather on the return home.

To gain full benefit from St. Moritz a patient should be well and strong enough to maintain his circulation by his own exertion ; even in rough weather the air is dry and very bracing, and the patient returns to the hotel in good spirits and with an appetite for his dinner. There are many people, especially those who

live in the country and come daily to town for business who might do well without leaving home, or even their work, during the summer when the days are long enough for ample open air exercise (besides the hours spent in the office or place of business); but when the foggy and short sunless days of November and December come, then is the time to be off to Biarritz, to the Riviera or to the Alps. Such a plan as this, would, I believe, prove of permanent benefit to many, would arrest deterioration and premature decay, and, as regards the children, a winter holiday at St. Moritz is, as I have said, of unparalleled advantage. While advocating the direct journey home in certain cases, it must not be forgotten that, where there is a hæmorrhagic tendency it is wise to make the change gradually, to this end a few days may be wisely spent on the Lake levels and at an intermediate level, at Thusis, for instance.

Cases in which there is marked arterial degeneration do not bear the change well, and need especial care in accomplishing the journey by gradual ascents.

During 285 consecutive journeys over the passes this winter to and from St. Moritz of which notes have been taken, only three have been followed by catarrh, owing no doubt to the care of the travelling companions and the watchful attention of those who have provided extra wraps and fur-lined boots for the sleigh journeys.

There is really a greater danger of chill to the patient when he has reached his destination, and therefore a still greater need for a watchful medical attendant and self-denying sensible companions who will forego some pleasure rather than lead the invalid into temptations which he has difficulty in resisting. Before April comes, many of those who have gained and are gaining steadily are

affected by a widespread, often fatal epidemic, which may be called "love of change and novelty fever." This fever has lately attacked many who, instead of being content to go on in the dry bracing air until "snow melting" comes, start off sight-seeing to the plains, or to the lakes, where they find weather quite as trying as that of England in March and April, without home comforts and without means of escaping from the dangers around.

Now-a-days people expect to be cured of chronic complaints at express speed. When I first knew Davos and the Engadine, the steady, plodding German and Dutch patients who populated them repaired thither in May or June, remained till the following April ; and, if a return was then deemed advisable, took a few weeks' holiday at some very quiet place—no scampering about sight-seeing—and were back again contented to be able to regain their health at the sacrifice of one, two, or three seasons. This is now all changed, the only pity is that the malady has not changed too. It, alas ! remains the same ; and the patients reap the fruits of their impatience and instability of purpose.

Cases of anæmia and chlorosis do only fairly well in the Engadine in summer, and in winter also. When hysteria is present the air is apt to prove too exciting and irritating, and thus nervousness and sleeplessness are increased. Persons prone to flushing or to "flushes and chills," do not flourish ; nor do those subject to congestion or nervous headaches. It is seldom wise to send sufferers from neuralgia to snowy regions, as the neuralgia is apt to come on and continue in cold air ; and thus such patients keep in doors, and lose the benefit of the sun.

Phthisical patients having very excitable temperaments are less likely to gain good than the more lymphatic class ; yet the torpid and indolent who prefer bed and the fireside to the open air cannot gain much from any climate treatment.

This winter I have sent two chlorotic patients to St. Moritz. In one of these the blood was so poor and the circulation so languid that cramps occurred in skating, which interfered much with exercise and delayed progress. In the other case, improvement set in at once, and the patient is now stronger and better than for years.

Jaundice and liver affections, constipation and consequent piles, are common in the Alps. Chronic skin diseases are increased, also rheumatic affections. Young people, children especially, do well ; old people do not. Teeth degenerate in the Alps ; a visit to the dentist should precede one to the Alps. Artificial eyes are a source of trouble, by communicating cold to the orbit. As regards phthisis, it is almost needless to say that like other health resorts the Alps afford their most favourable results in cases of threatened lung disease.

Cases of characteristic, hereditary, tubercular disease, even where the physical signs are not very manifest, do not, however, show such good results as those in which the local evil is manifest but limited, with surrounding sound lung. The disease may, indeed, be advanced and a cavity exist on both sides, yet benefit often comes ; and I have seen several cases of this kind. Among the cases most markedly benefited are those of chronic pleurisy or pleuro-pneumonia in which the effused products have proved slow to resolve. Effusions are said to disappear speedily, and I have observed that

lungs bound down by fibrous deposits lose their hard percussion note ; permeability and elasticity return ; the size of the chest increases, and the air enters freely, puerile breath sound taking the place of feeble breathing. The circulation through the lungs being freed, the heart's action is relieved, its pulsations become less frequent, and the tendency to catarrhal complications following exertion and exposure to cold is eventually lost. My attention has been drawn to the fact that, if the pulse becomes quiet, the irritability of the heart lessens, the temperature falls, and it is safe to prognosticate improvement ; if the temperature remains high for six weeks after arrival, and shows no sign of decided reduction, then it is best to try another change of climate. The quick pulse may generally be traced to obstruction in the pulmonary circulation. It was pointed out by my late father, Dr. Theophilus Thompson, that the rapid pulse of phthisis is not reduced by recumbency as it is in health. The rarefied air, by leading to full chest expansion, frees the pulmonary capillaries, and thus the necessity for hurried action of the right heart is removed ; with the reduction in the pulse rate a diminution of pyrexia occurs, and catarrhal complications become less severe and lasting.

Cases of general bronchitis, whether acute, sub-acute, or chronic, are, however, seldom benefited unless there is limited localised consolidation, the result of pneumonia, pleurisy, or bronchitis, the remaining portions of lung being healthy. If this is the case, Alpine climates often do great good, the hardened portions of lung become pervious, the surrounding healthy parts expand, and so the dyspnœa is lessened and paroxysmal asthma no longer occurs.

Asthma, if associated with localised bronchial affections, is often very favourably affected ; but if due to emphysema and general bronchitis improvements cannot be counted upon.

My friend and late colleague, Dr. Marcet, has shown in his recent interesting book on "Southern and Swiss Health Resorts," that inflammatory diseases of the chest are frequent among the Swiss mountains, and that at Chamounix one-fifth of the mortality is due to pneumonia.

As regards bronchiectasis, improvement is found to be very slow at Davos, as elsewhere. Rapid gain must not be expected.

Pure spasmodic asthma does well at St. Moritz in winter, as in summer—perhaps better in the former than the latter, on account of the greater equability and dryness of the air. One young fellow, who in England could seldom walk up two flights of steps without resting, was constantly to be seen skating and tobogganing, and never for a moment breathless, although the sounds of the chest showed that much local disease remained.

Hæmoptysis is not uncommon, but is mainly traceable to the undue exertion taken by patients who fail to attend to the precautions laid down. Cases of hæmorrhagic origin are among the most favourable—a result attributable in part to the non-hereditary nature of these cases, and next to the pure aseptic air rendering the after effects of blood effusions into the lung less injurious, and less likely to set up pyrexia than at low levels with impure air. In one case which occurred at St. Moritz, hæmoptysis followed running to the hotel and then hurriedly stooping to adjust a lady's skates.

In another it followed dancing ; and in a third, exposure in the late evening to chilly air.

There is no evidence to show that the rarefied air causes leakage by expanding the lung and opening out weak vessels. Where the amount of damaged lung is large there the sense of dyspnœa interferes with exertion, and so lessens the danger of hæmorrhage ; in all other cases the exhilaration, by producing a sense of lightness and ability for exertion introduces an element of increased danger.

Dr. Ruedi, of Davos, watches his patients like a cat watches a mouse, or as he says, " like a policeman a ' ticket-of-leave man.' "

There is, perhaps, no health resort where the necessity for ceaseless vigilance on the part of the doctor and of implicit obedience on that of the patient is so essential. The absence of painful sensation in lung disease leading to unwillingness to accept rules for guidance is familiar in every climate ; but where a sense of buoyancy and ability for exertion is a special feature in the effect of climate, the danger of excessive exertion then becomes so great that it will probably continue to frustrate the best and most watchful efforts of the resident physicians, and will cast an undeserved discredit on the climate.

In one of the most favourable cases I ever sent to Davos—a case in which Dr. Ruedi expressed, and with well-grounded confidence, the most hopeful prognostications—the patient walked for six hours, dinnerless, over an exposed pass in a strong wind, shivers, lung congestion and consolidation followed ; and in three days he was dead.

If, therefore, a patient shows an unwillingness to

submit to necessary restraint, and a readiness to be tempted to undue exertion, this alone should make us very careful in sending such an one to the mountains ; for there the danger of damage is far greater than in the Riviera or South of England.

On the other hand, one of my patients failed to gain full benefit, not because his disease was unsuited to the climate, but because he would smoke and drink, would take no exercise, and refused to see the force of the doctor's directions.

My friend and colleague, Dr. C. J. Williams, in his valuable record of "Cases of Phthisis as treated at High Altitudes," in the *Lancet* of August 9th and 16th, 1879, states that, "when at Davos, in the winter of that year, he was surprised at the large proportion of pyrexia among the phthisical patients, which, considering the limited amount of disease (and that in an incipient form) which prevailed, is unusual, and different from the common experience in England. The influence which so powerfully stimulates digestion exercises a corresponding influence on the inflammatory process, and converts what in England would be a passive congestion with low temperature into a well-marked pyrexial inflammation."

My own observations at Davos and the Engadine this winter do not confirm this view. While Dr. Williams was struck with the disproportion between the pyrexia and the amount of lung disease, high fever occurring when the lung was but slightly involved, I was impressed, and this in a large proportion of the cases, with the absence of fever, and, indeed, of all other symptoms of illness, even in cases of extensive and advanced disease.

It is true that I saw two or three cases in which pyrexia

was unduly marked, exactly as Dr. Williams described, and in which the severity of the fever led me to expect far more serious resulting lung damage than actually occurred, but these cases were quite exceptional.

If Dr. Williams had been with me in January last, I am sure he would have concurred in the opinion that it would have been hard to find elsewhere so many cases of pronounced, and often extensive and advanced, lung disease with so little pyrexia or constitutional disturbance. It may, however, be accepted as a fact that febrile action, when it occurs in the mountains, is of a more active kind than on low levels ; and further, that when wisely treated, it more quickly yields, and leaves behind less serious results.

Chest Measurement.—The chest measurements published by Dr. C. J. Williams in the “Transactions of the International Medical Congress” are more remarkable than in my own cases. It is true that the results are extraordinary, after pleurisy, but in cases of phthisis without complication I have not made out that the increase is greater than half an inch or an inch. Many patients have not been previously accustomed to active mountaineering, which brings the whole chest into play, increases the expansile movement by two or three inches, and developes the pectoralis and latissimus dorsi muscles.

Again, my cases have not been those of growing lads or lasses who naturally increase in girth, as in other directions during the expansion of their frames.

In taking cyrtometric trainings it is exceedingly difficult to take observations accurately. The difficulty is less when the callipers are used ; they are quickly adjusted. It is easy to fix with accuracy on two bony

points, such as the spinous process of a certain vertebra, and in front on a rib. The amount of expansion of each lung may be quickly and accurately determined ; and by the use of the callipers you avoid errors of chest measurement due to variation in muscular enlargement and contraction.

Again, as regards *weight*, I have found an increase of weight at first if the patients are kept very quiet on arrival ; but it has seemed that the exceeding dryness of the air, which causes a loss of moisture from the body, does not allow of that marked increase of weight which the creation of muscular vigour might lead one to expect.

It is, however, to be observed that many who have gained but little weight during their stay, begin rapidly to gain weight on returning home, as an athlete in training rapidly puts on weight immediately after the contest—when he is no longer limited in fluid food.

That great benefit constantly accrues from the mountain treatment is, to my mind, undoubted ; but it is not safe to count upon permanent arrest, still less to look for restoration to health in advanced cases after a single winter.

During my visit to St. Moritz and Davos in January last, I had an opportunity of examining cases of phthisis in every stage, and could not fail to be impressed with the marked advantage accruing in almost every instance. In one case of advanced phthisis, with excavation in one lung, and softening in the other, chilblains interfered much with exercise, and prevented improvement which, however, could hardly have been expected under any circumstances.

In another case, the whole of one lung was converted

into an immense amphora, but the sound lung had encroached on the space vacated by the diseased one, and the patient, a girl of 19, was able to walk slowly to the rink and spend four or five hours in the sun, having her luncheon brought to her in a shaded corner of the rink which had on the north, east, and west a bank some 10 feet high, which not only sheltered from wind, but reflected the solar rays.

I examined cases in the first and second stage of phthisis, in which complete arrest had occurred ; the pulse was quiet, temperature normal, and the patients skated and tobogginned for hours daily.

In a case of chronic basic cavity with fetid breath, although an attack of jaundice checked progress and led to some loss of flesh, no fat being taken till the obstructed duct was free, yet the remaining lung tissue being fully expanded the patient was able to walk, and even run up hill without dyspnoea, and the chest expansion was four inches.

In a case in which softening, and a small cavity (doubtful) had existed at the right apex, I could find nothing but some woodenness of percussion with prolonged expiration and conducted heart sounds above the right clavicle. Chest measurement showed an increase of nearly an inch. He had gained between six and seven pounds in weight, as well as in muscular tone, for he took much exercise.

One patient impressed me much, of consumptive family, with all the characteristics of a phthisical constitution, rapid pulse, high temperature, hectic, cough, night sweats, loss of flesh, purulent and pearly expectorations, and occasional hæmoptysis. I was prepared to find evidence of advanced and advancing disease. The physical signs

confirmed this anticipation. Besides the cavity and softening on one side, there was evidence of recent softening on the other, and reason to fear that a new outbreak had occurred, which would leave the patient in a worse condition than before.

Dr. Ruedi, however, gave a favourable prognosis, and on the strength of a previous rally from an acute exacerbation, confidently looked forward to speedy amendment.

The reports I now receive confirm this favourable prognosis. The temperature is now normal, the pulse quiet, 90, not 120, the night sweats have ceased, and the moist sounds have been replaced by dry ones.

March 2nd, 1883.—Dr. Ruedi reports: He is now in his normal condition; still, the right apex does not expand so well as before.

This replacement of the signs of softening by those of a dry kind, which, indeed, we frequently see here, is so universal at Davos, that it is confidently looked for and promised by the local doctors.

One cannot avoid the conclusion that to guide a case of phthisis successfully through the various stages is a much easier matter in the higher Alps than in England—easier, I believe, than on the Riviera or at sea.

On the other hand, more than ordinary caution and watchfulness are needed if the doctor is to preserve the patient from the dangers of an exhilarating atmosphere, always tempting the invalid to presume on his powers and attempt more than his strength justifies.

In placing a patient under Dr. Ruedi's care, we may be sure that this watchfulness and judgment will be exercised to the full. In Dr. Holland, of St. Moritz, implicit reliance may also be placed. The manner

in which he has organised the arrangements for the patients, and has kept a hundred people in cheery contentment during an unusually trying season does him infinite credit. My warm thanks are due to both of these accomplished physicians for much of the information contained in this paper.

On taking all the cases of phthisis together, those seen at Davos and St. Moritz, I find a total of 6 cases in the 1st stage (5 males and 1 female). In the 2nd stage, 14 cases (11 males and 3 females). In the 3rd stage, 14 cases (9 males and 5 females).

Of the six 1st stage cases 5 improved and 1 (female) remained unaltered. Of the fourteen 2nd stage cases, 11 improved, 2 remained stationary, and 1 died. Of the fourteen 3rd stage cases, 9 improved, 2 are stationary, and 3 have died.

Out of a total of 34 cases of phthisis, 25 improved, 5 remained stationary, and 4 died.

It would be impossible for any one to see such cases as these without being convinced that in an unusually large proportion, disease is arrested.





